UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/544,544	04/06/2000	Atsushi Uchino	Q58637	7510

7590   06/18/2003

Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue NW
Washington, DC 20037-3202

EXAMINER
RYMAN, DANIEL J

ART UNIT	PAPER NUMBER
2665	

DATE MAILED: 06/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/544,544	UCHINO, ATSUSHI
	Examiner	Art Unit
	Daniel J. Ryman	2665

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 April 2000</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-14</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-14</u> is/are rejected.

7)☒ Claim(s) <u>5 and 6</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>06 April 2000</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>6</u> .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Drawings

1.   The drawings are objected to because the reference numbers for address family identifier,

IP address, and subnet mask on page 22, line 26 to page 23, line 5 and page 23, lines 17-23 do

not agree with the parts in Fig. 6. A proposed drawing correction or corrected drawings are

required in reply to the Office action to avoid abandonment of the application. The objection to

the drawings will not be held in abeyance.

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they

do not include the following reference sign(s) mentioned in the description: ref. 520 (page 20,

line 20 and page 20, line 24). A proposed drawing correction or corrected drawings are required

in reply to the Office action to avoid abandonment of the application. The objection to the

drawings will not be held in abeyance.

Specification

3.   The disclosure is objected to because of the following informalities: on page 7, line 17

"executes::" should be "executes:". On page 25, line 7 "RIP2" should be "RIP1" since RIP1 is

not able to exchange subnet masks and therefore RIP1 would make it difficult to acquire subnet

masks.

Appropriate correction is required.

Claim Objections

4.   Claim 5 is objected to because of the following informalities: in lines 15-16 "means of

extracting information indicating that indicates nodes which perform" should be "means of

extracting information indicating nodes which perform". Appropriate correction is required.

5.   ·   Claim 6 is objected to because of the following informalities: in line 12 "which is

broadcasted domains connected through the interworking unit" should be "which is broadcasted

to domains connected through the interworking unit". Appropriate correction is required.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-5, 7, and 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Dinkin et al (USPN 5,224,205) in view of France et al (USPN 5,754,790).

8.   Regarding claims 1-5, 7, 10, and 13, Dinkin discloses a node-search method in a network,

comprising the steps of: sending a search request packet, for requesting a response from a node

which provides a specific service, to a domain (col. 1, lines 17-31; col. 1, lines 51-61; col. 2,

lines 19-32; and col. 3, lines 24-32) where a service and a resource are taken to be equivalent;

and receiving a response packet for said broadcast packet and detecting the node which sent the

response packet (col. 2, lines 51-64; col. 3, lines 17-26; and col. 3, lines 24-32). Dinkin possibly

does not expressly disclose that the search request packet is a broadcast packet; however, Dinkin

does disclose that it is known to perform a search using a broadcast packet within a domain (col.

2, lines 51-58). In addition, Dinkin discloses that each subarea domain in the second network is

searched separately, but Dinkin possibly does not disclose the details of how each subarea

domain is searched (col. 3, lines 24-32). It would have been obvious to one of ordinary skill in

the art at the time of the invention to have the search request packet sent to each subarea domain

be a broadcast packet in order to allow quick identification of the network resource. Further,

Dinkin suggests that the first network could be of the same type as the second network (col. 1,

lines 51-57), in which case, the search in the second network would be conducted in a manner

similar to the search in the first network. Thus it would have been obvious to one of ordinary

skill in the art at the time of the invention to have the search method in the second network be a

broadcast search. Moreover, Dinkin possibly does not expressly disclose that the search

algorithm is executed in software; however, using software to execute a method is well known in

the art since software is more flexible and typically less expensive than hardware. Dinkin also

possibly does not expressly disclose that that the broadcast message is sent to a specific port

number; however, it is well known in the art to send a message to a specific network domain

through an interworking unit via a specific port since each network domain is connected to the

interworking unit via a specific port. Finally, Dinkin possibly does not expressly disclose that a

packet, which includes routing information in which a domain in the network is listed, is

acquired; however, it is obvious that the interface node of Dinkin needs an accurate map of the

domains in the network in order to operate properly since the interface node is able to determine

each domain in the second network (col. 3, lines 24-32) as well as determine paths to specific

nodes in the first network (col. 2, line 59-col. 3, line 11). It is well known in the art to use

packets to allow interface nodes, such as routers, to update their network maps in order to have

the maps accurately reflect any changes in the network, as is evidenced by France (col. 1, line

14-col. 2, line 30). It would have been obvious to one of ordinary skill in the art at the time of the

invention to acquire a packet which includes routing information in which a domain in the

network is listed in order to ensure that all interface nodes have an accurate map of the networks

which the interface nodes are connecting.

9.   Regarding claim 11, referring to claim 10, Dinkin in view of France discloses that the

program makes the computer execute the steps of: in said first process, sending a packet

requesting a search by a device in which the routing information is stored (Dinkin: col. 2, lines

19-32), and in said second process, designating at least one domain (Dinkin: col. 3, lines 28-32),

broadcast sending a server name request packet requesting a node name of the node providing

the specific service to the designated domain (Dinkin: col. 1, lines 17-31; col. 1, lines 51-61; col.

2, lines 19-32; and col. 3, lines 24-32) where a service and a resource are taken to be equivalent,

and creating a server list from server names contained in a response packet for the server name

request packet (Dinkin: col. 2, lines 22-32) where the "directory of resources known by the

respective section" is taken to be "a server list" since both contain a list of known resources.

Dinkin in view of France possibly does not expressly disclose sending a packet to a device in

which the routing information is stored so as to acquire information indicating the domains.

Instead, Dinkin in view of France discloses that a node sends a search request to an interface unit

which then performs the search where it is obvious that this is done since the interface unit has

the routing information needed to perform the search (Dinkin: col. 2, line 59-col. 3, line 32).

Although Dinkin in view of France performs the search at the interface node, it would have been

obvious to one of ordinary skill in the art at the time of the invention to perform the searching

method at the requesting node rather than the interface node, by sending the routing information

needed for searching to the requesting node from the interface node to the requesting node, in

order to minimize the use of resources in the interface node and to allow parallel searching to occur by having multiple individual nodes search simultaneously.

10.   Regarding claim 12, referring to claim 11, Dinkin in view of France suggests that the program further makes the computer execute the steps of: in said second process, receiving operation designating the kind of the service which is provided by said node, and broadcast sending a server name request packet for requesting a node name of a node providing the designated service (Dinkin: col. 2, lines 22-32) where the "directory of resources known by the respective section" is taken to be include a listing of the type of resource and where the resource can be obtained.

11.   Claims 6, 8, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkin et al (USPN 5,224,205).

12.   Regarding claims 6 and 8, Dinkin discloses a node-search device for searching for a node in a network, comprising: means for sending a packet, for requesting a search by an interworking, to the interworking unit, which is capable of storing preset routing information (col. 2, lines 19-32); means for sending a request packet, for requesting a response from a node which provides a specific service, which is sent to domains connected through the interworking unit (col. 1, lines 17-31; col. 1, lines 51-61; col. 2, lines 19-32; and col. 3, lines 24-32) where a service and a resource are taken to be equivalent; and means for receiving a response packet for said request packet and detecting the node which sent the response packet (col. 2, lines 51-64; col. 3, lines 17-26; and col. 3, lines 24-32). Dinkin possibly does not expressly disclose that the search request packet is a broadcast packet; however, Dinkin does disclose that it is known to perform a search using a broadcast packet within a domain (col. 2, lines 51-58). In addition,

Dinkin discloses that each subarea domain in the second network is searched separately, but Dinkin possibly does not disclose the details of how each subarea domain is searched (col. 3, lines 24-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the search request packet sent to each subarea domain be a broadcast packet in order to allow quick identification of the network resource. Further, Dinkin suggests that the first network could be of the same type as the second network (col. 1, lines 51-57) in which case the search in the second network would be conducted in a manner similar to the search in the first network. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have the search method in the second network be a broadcast search. Moreover, Dinkin possibly does not expressly disclose sending a packet, for requesting routing information for a network connected to an interworking unit, to the interworking unit or receiving a packet containing said routing information and acquiring information indicating a node contained in said routing information. Instead, Dinkin discloses that a node sends a search request to an interworking unit which then performs the search where it is obvious that this is done since the interworking unit has the routing information needed to perform the search (col. 2, line 59-col. 3, line 32). Although Dinkin performs the search at the interworking node, it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the searching method at the requesting node rather than the interface node, by sending the routing information needed for searching to the requesting node from the interface node to the requesting node, in order to minimize the use of resources in the interface node and to allow parallel searching to occur by having multiple individual nodes search simultaneously. Finally, Dinkin possibly does not expressly disclose that the search algorithm is executed in software; however, using software

to execute a method is well known in the art since software is more flexible and typically less expensive than hardware.

13. Regarding claim 9, referring to claim 8, Dinkin possibly does not disclose that the interworking unit is a router; however, using a router as an interworking unit is well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a router as the interworking unit since routers are well known interworking units.

14. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dinkin et al (USPN 5,224,205) in view of Ahearn et al (USPN 5,926,463).

15. Regarding claim 14, Dinkin discloses a node-search method in a network, comprising the steps of: sending a search request packet, for requesting a response from a node which provides a specific service, to a domain (col. 1, lines 17-31; col. 1, lines 51-61; col. 2, lines 19-32; and col. 3, lines 24-32) where a service and a resource are taken to be equivalent; and receiving a response packet for said broadcast packet and detecting the node which sent the response packet (col. 2, lines 51-64; col. 3, lines 17-26; and col. 3, lines 24-32). Dinkin possibly does not expressly disclose that the search request packet is a broadcast packet; however, Dinkin does disclose that it is known to perform a search using a broadcast packet within a domain (col. 2, lines 51-58). In addition, Dinkin discloses that each subarea domain in the second network is searched separately, but Dinkin possibly does not disclose the details of how each subarea domain is searched (col. 3, lines 24-32). It would have been obvious to one of ordinary skill in the art at the time of the invention to have the search request packet sent to each subarea domain be a broadcast packet in order to allow quick identification of the network resource. Further, Dinkin suggests that the first network could be of the same type as the second network (col. 1,

lines 51-57) in which case the search in the second network would be conducted in a manner similar to the search in the first network. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to have the search method in the second network be a broadcast search. Moreover, Dinkin possibly does not expressly disclose that the search algorithm is executed in software; however, using software to execute a method is well known in the art since software is more flexible and typically less expensive compared to hardware. Dinkin also possibly does not expressly disclose that that the broadcast message is sent to a specific port number; however, it is well known in the art at the time of the invention to send a message to a specific network domain through an interworking unit via a specific port since each network domain will be connected to the interworking unit via a specific port. Finally, Dinkin possibly does not expressly disclose that an SNMP (Simple Network Management Protocol) packet is received; however, it is obvious that the interface node of Dinkin needs an accurate map of the domains in the network in order to operate properly since the interface node is able to determine each domain in the second network (col. 3, lines 24-32) as well as determine paths to specific nodes in the first network (col. 2, line 59-col. 3, line 11). It is also well known in the art to use packets to allow interface nodes, such as routers, to update their network maps using SNMP packets in order to have the maps accurately reflect any changes in the network, as is evidenced by Ahearn (col. 12, lines 3-9). It would have been obvious to one of ordinary skill in the art at the time of the invention to receive an SNMP packet which includes routing information in which a domain in the network is listed in order to ensure that all interface nodes have an accurate map of the networks which the interface nodes are connecting.

Conclusion

16.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Roy et al (USPN 6,496,859) see abstract which discloses searching a subnetwork for resources. Boyles et al (USPN 5,511,208) see abstract which details searching another subnet for resources. Ratcliff et al (USPN 6,084,859) see abstract which details compiling a list of supported resources. Agatone et al (USPN 5,852,744) see abstract which details searching for a specific service. Wiley et al (USPN 5,687,320) see abstract which details a search on a subnetwork. Wu (USPN 5,185,860) see abstract which details a node search method.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel J. Ryman whose telephone number is (703)305-6970. The examiner can normally be reached on Mon.-Fri. 7:00-5:00 with every other Friday off.
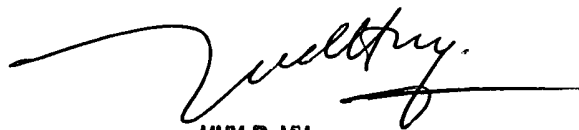
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (703)308-6602. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-6743 for regular communications and (703)308-9051 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

Daniel J. Ryman
Examiner
Art Unit 2665

DJR

Daniel J. Ryman
June 6, 2003

HUY D. VU
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600